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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,753	07/28/2003	Kam-Leung Lee	YOR920030077US1	4397
48150	7590	10/18/2005	EXAMINER	
MCGINN INTELLECTUAL PROPERTY LAW GROUP, PLLC			KEBEDE, BROOK	
8321 OLD COURTHOUSE ROAD			ART UNIT	
SUITE 200			PAPER NUMBER	
VIENNA, VA 22182-3817			2823	

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/627,753

Applicant(s)

LEE ET AL.

Examiner

Brook Kebede

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 August 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-35 and 37-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-22, 25-35 and 37-44 is/are allowed.
- 6) ☒ Claim(s) 23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Allowable Subject Matter***

1. Claims 1-22, 24-26, 28-35 and 37-44 are allowed over prior art of record.
2. The indicated allowability of claim 23 is withdrawn in view of the newly discovered Noda (US/2003/0049917). Rejections based on the newly cited reference(s) follow.

### ***Claim Objections***

3. Claims 9, 10, 11, 33, 34, 35, 41 and 43 objected to because of the following informalities:

Claims 9, 10, 11, 33, 34, 35, 41 and 43 use an open-ended phrase “comprises” in the Markush group of claim. However, such use is improper. *It is improper to use the term "comprising" instead of "consisting of."* See *Ex parte Dotter*, 12 USPQ 382 (Bd. App. 1931).

Appropriate correction is required.

### ***Specification***

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

Claim 23 recites “The method of claim 1, wherein said implanting said dopant is performed after said implanting said at least one species, said method further comprising annealing said substrate after said implanting said species and before said implanting said dopant” in lines 1-4.

Although, the specification provides support for “implanting said dopant is performed after said implanting said at least one species,” as shown in Figs. 5A and 5B and Pages 19 and 20 of the instant application, the specification does not provide support for “annealing said substrate

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after said implanting said species and before said implanting said dopant.” Therefore, the specification is objected to as failing to provide proper antecedent basis for the claimed subject matter.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claim 23 is rejected under 35 U.S.C. 102(e) as being anticipated by Noda (US/2003/0049917).

Re claim 23, Noda discloses a method of forming a semiconductor device, comprising: implanting, on a substrate (11 12), a dopant and at least one species; and annealing said substrate (11 12), said at least one species retarding a diffusion of said dopant during said annealing of said substrate (see Page 3, Paragraph [0038]), wherein said implanting said dopant is performed after said implanting said at least one species (i.e., indium ion), said method further comprising: annealing said substrate after said implanting said species and before said implanting said dopant (see Figs. 1A-1D and related text in Page 3, Paragraph [0038] through Page 4, Paragraph [0056]).

***Response to Arguments***

7. Applicants’ arguments with respect to claim 23 have been considered but are moot in view of the new ground(s) of rejection.

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Applicants argument with respect to the US Patent Publication "2003/009640" has no merit because the document listed in the IDS that was filed on December 8, 2004 is not considered because the Publication number cannot be found in the USPGPUB data base. Applicants are strongly encourage to check the listed number whether or not that number is the correct and proper US Patent Publication number. Therefore, the Examiner cannot consider the "2003/009640" document because the document does not exist in the database and is not retrievable.

#### ***Conclusion***

8. **THIS ACTION IS MADE NON-FINAL.**

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure Hsu et al. (US/6,793,731) also disclose a substrate comprises a graded silicon-germanium layer which the concentration of the germanium ion increasing form the bottom surface to the top surface. Therefore, the prior art of record does not teach "the concentration of the Ge increases in a direction extending away form the top surface of the substrate," as recited in claims 1 and 25 either taken alone or in combination.

#### ***Correspondence***


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brook Kebede whose telephone number is (571) 272-1862. The examiner can normally be reached on 8-5 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on (571) 272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BK  
October 13, 2005



George Fourson  
Primary Examiner